



July 3, 2017

Todd Thompson, P.E.
Water Use Efficiency
Department of Water Resources
P.O. Box 942836
Sacramento, CA 94236

Re: Comments on Proposed Regulations – 2nd 15-Day Language – Water Audits and Water Loss Control Reporting

Dear Mr. Thompson:

Thank you for the opportunity to present these views in response to the second 15-day language of draft regulations to implement SB 555. While this new text remedies several of the deficiencies we previously identified in our comments on the initial 15-day language, a significant flaw remains in the proposal. Specifically, we object to the exclusion of water loss audit reporting for water distribution systems operated by urban retail water suppliers that distribute recycled water to retail customers.

1. The Department has invented an exemption for nonpotable water distribution systems that does not exist in the statute.

SB 555 (2015) requires that all retail urban water suppliers submit validated water loss audits on an annual basis. The law makes no exception for retail distribution systems carrying recycled water to retail customers. Recycled water distribution systems should not be allowed to go unaudited and contribute to the waste of an important resource. Because recycled water is distributed separately from potable water, it is most appropriate for agencies with both potable and nonpotable retail distributions systems to file a separate audit report on each. Indeed, as corrected in the 2nd 15-day language, Section 700.5(c) would now require an urban water supplier operating more than one separate distribution system to file an annual audit report on each system – a process that would certainly accommodate the reporting for retail recycled water distribution systems.

Some may argue that guidance issued for previous water audit reporting legislation (SB 1420) limited water loss reporting to potable systems. This is hardly relevant to the regulations for SB 555, however, as the later bill enacted numerous additional requirements for urban water suppliers that were not contemplated in previous legislation. SB 555 was clearly intended to enact *additional* requirements regarding water loss reporting.

A regulation consistent with SB 555 would encompass each water distribution system operated by a retail urban water supplier to deliver water under pressure to retail customers, whether potable or non-potable. It may be useful to point out what type of recycled or other non-potable water systems should **not** be covered by such regulations:

- any nonpotable water facilities operated by a retail water supplier not qualifying as an urban water supplier, e.g., small systems;
- any nonpotable water facilities operated by a wholesale urban water supplier;
- any nonpotable water facilities operated by a sanitation agency that is not also a retail urban water supplier;
- any nonpotable water facilities operated exclusively by a retail customer of a retail urban water supplier;
- any nonpotable water facilities conveying water reclaimed from a wastewater treatment plant to a point of additional treatment or to groundwater recharge;
- any nonpotable water facilities conveying water withdrawn from storage to a point of additional treatment prior to distribution to retail customers;
- any nonpotable water facilities conveying water to retail customers through open ditches.

In short, the “purple pipe” distribution system delivering treated recycled water under pressure to the retail customers of an urban water supplier is to be audited and reported in the same manner as the retail potable water distribution system.

2. There is no technical barrier to the use of the AWWA water audit software to report losses from pressurized water distribution systems delivering recycled water to retail customers.

Coverage of recycled water distribution systems was first questioned in a comment on the 45-day language by Irvine Ranch Water District, a major distributor of recycled water.¹ IRWD requested “clarification” that distribution systems for recycled and other nonpotable water were not to be covered by the reporting regulation. IRWD cited no technical issues or public policy considerations in its request for clarification.

In response to the exclusion of recycled water systems in the first 15-day draft regulation, the AWWA California-Nevada Section (CA-NV) asserted support for the efficient use of all water, including recycled water, but supported the proposed exemption on nominally technical grounds.² CA-NV noted that it would be inappropriate to combine a separate recycled water system and a potable water system into a single audit. We agree, and as noted above, the new language in 700.5(c) ensures that each separate system operated by a retail urban water supplier will be audited and reported separately, fully resolving this concern.

¹ Fiona Sanchez, Director of Water Resources, Irvine Ranch Water District, April 13, 2017 (in DWR public record).

² Timothy Worley, Executive Director, AWWA California-Nevada Section, June 1, 2017 (in DWR public record).

Additionally, using language echoing that of its technical consultants,³ CA-NV asserted that the AWWA M-36 Manual “contains only three mentions of recycled water (p. 160, 356, 382), and all are in the context of distinguishing it from potable water for the purpose of excluding recycled water from the potable water balance.” This is an incorrect reading of the M-36 manual. The reference on p. 160 is in a case study of the theft of water by a golf course to illustrate the potential importance of “unauthorized consumption” as a component of a system water balance – not relevant to whether a retail recycled water system can or should be audited. The reference on p. 382 is to a definition of the term “demand management”, wherein recycled water is simply listed as one of several strategies that can support long-term sustainability of water resources – again, wholly irrelevant to whether a retail recycled water system can or should be audited.

Finally, the reference on p. 356 is actually part of a longer discussion providing guidance for auditing facilities carrying untreated water. Indeed, if the M-36 method is applicable to both raw water conveyance and potable water conveyance, it stretches the imagination to conclude that it is not applicable to the conveyance of treated recycled water.

For the auditing of retail water distribution systems, however, the format and assumptions underlying the water loss audit do suggest that report and its performance indicators are designed to accommodate piped and pressurized water distribution systems, rather than open ditch systems. While not as common in California as in Utah or Arizona, any open ditch delivery system to retail customers should not be covered by the standardized audit reporting requirement at this time.

3. There is no public purpose served by the exclusion of retail recycled water distribution systems from annual audit reporting.

While some commenters have claimed – without foundation, we believe -- technical incompatibility as a reason to exclude recycled water distribution systems from audit requirements, none have pointed to any public purpose that would be advanced by such action. On the contrary, incorporating recycled water systems in the annual reporting requirement would have several useful purposes. First, the loss characteristics of recycled water systems would be presented consistently for the first time, informing local governing boards and consumers of both the volumes and the costs attributable to real and apparent losses. In an urban setting, recycled water is integral to the stewardship of treated drinking water, as recycled water delivered to customers offsets a need that would otherwise be met with potable water. Water loss auditing of recycled water systems serves the same fundamental purposes as auditing of potable water systems.

³ Water Systems Optimization, Inc., and Cavanaugh & Associates, June 2, 2017 (in DWR public record).

Additionally, the annual water loss audit reporting requirement will assemble for the first time a full dataset of all the purple pipe systems operated by retail urban water suppliers in California. Even the exact number of such systems, while not thought to be large, is currently unknown. Information available on each audit, including system operating costs and retail revenues, will comprise a brand new database of the operating parameters of recycled water systems throughout the state, useful for academic researchers, policy makers, and peer-to-peer learning.

4. Regulatory Practicalities.

While the hour is late (DWR was directed by statute to complete this regulation more than six months ago), the Department should take note that there are no special costs associated with reporting on a recycled water distribution system compared with reporting on any other separate distribution system. The AWWA Free Water Audit Software can be used for reporting on a recycled water system without requiring any revision. And while some water suppliers may not have fully anticipated the necessity of preparing an audit of their recycled water system by October 1 of this year, the audit format itself is designed to accommodate whatever data is available to the auditor, even cases where audit entries are based on best professional judgement, provided they are so noted in the data quality grade assigned to each entry. The initial year's audit reports for recycled water systems may be somewhat "rough and ready," but over time, the same process of improvements in data collection and audit proficiency can be anticipated with recycled water systems as has already become evident with audits on potable water distribution systems.

Recommended changes.

The techniques and practices of the M-36 Manual and the Free Water Audit Software can and should be used by retail urban water suppliers operating recycled water distribution systems. The standardized tools allow for it, and our law in California requires it.

Several places where "potable" has been inserted into the regulations' text should be revised to remove the exclusion of retail recycled water distribution systems from the annual water loss audit requirement. Suggested language is offered below.

Section 700(a)

(a) The Department is directed, under California Water Code (CWC) §10608.34, to adopt rules for:

(1) the conduct of standardized water loss audits by urban retail water suppliers of their ~~potable~~ water systems;

Section 700.1(k)and (l)

(k) “Real Losses” means the physical water losses from the pressurized ~~potable~~ water system and the utility’s ~~potable~~ water storage tanks, up to the point of customer consumption.

(l) “Report” means the water loss audit report of a ~~potable~~ water supply required to be submitted to the Department as specified in Section 700.5.

Section 700.2

Urban retail water suppliers shall, on an annual basis, conduct water loss audits of their potable water systems and pressurized nonpotable water systems in accordance with the methods in Chapter 3 of the American Water Works Association Water Audits and Loss Control Programs, Manual of Water Supply Practices – M36, Water Audits and Loss Control Programs, 4th Edition, American Water Works Association, 6666 West Quincy Avenue, Denver, CO 80325-3098, 2016, and the AWWA Free Water Audit Software, version 5.0, American Water Works Association, 6666 West Quincy Avenue, Denver, CO 80325-3098 Copyright, 2014, both hereby incorporated by reference into these regulations.

Section 700.5(c)

(c) In the case of urban retail water suppliers with two or more separate public ~~potable~~ water systems, the urban retail water supplier shall submit a separate AWWA Free Water Audit Software spreadsheet worksheet meeting the requirements in Section 700.5(b)(1) for each ~~potable~~ such water system.

Section 700.6(a)(2)

(2) The data and data grading values in the audit sheet indicate that the system is operating in a manner that is congruent with known characteristics of ~~potable~~ water system operations. To evaluate congruency, the Department may consider the presence and significance of any of the following conditions:

Thank you for your attention to these views.
Respectfully submitted,

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